

REMARKS/ARGUMENTS

Claims 6-15 are pending. Claims 6-15 have been amended and new claim 16 has been added. Thus, claims 6-16 are currently pending and recite a method for obtaining, isolating and culturing an enriched population of preadipocytes, differentiating them, and then identifying a secreted protein, polypeptide or peptide.

Rejections Under 35 USC § 112, First Paragraph

Claims 6-15 stand rejected under 35 USC § 112, first paragraph as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors at the time the application was filed, had possession of the claimed invention. Specifically, the Examiner indicates that claims 6-15 have inadequate or no support in the specification as originally filed.

Applicants have amended independent claim 6 to include the limitations of the ingredients of the medium and the plating concentration as suggested by the Examiner. The phrase "greater than 90% enriched population" also has been amended to "at least 90%", for which there is literal support in the specification (for example, at page10, line 17). In addition, the phrase "greater than 95%" in claim 14 has been amended to recite "95%."

The Examiner requested that Applicant particularly point out the location in the specification of each element of the new claim. The phrase "for identifying a protein, polypeptide or peptide secreted by an enriched population of adipocytes" finds support on page 4, lines 23-28 of the specification: "The present invention provides...a means to identify novel polypeptides secreted from human adipocytes into the conditioned medium." In addition,

Applicant would like to point to Example 7 which illustrates “Identification of novel proteins from Human Cultured Adipocytes and Preadipocytes” wherein secreted proteins are shown to be identified from differentiated adipocytes (differentiated as in Example 1, which has been shown to lead to an enriched population). Lastly, support for the identification of novel “peptides” can be found in the specification, for example, on page 16, lines 20-27.

The description of the method of isolating preadipocytes and differentiating them into an enriched population of adipocytes can be found throughout the specification, including at: page 4, lines 13-30; page 9, lines 1-31; and page 10, lines 1-8. Specifically, support for the phrase: “the differentiation is achieved in a cell culture medium that comprises a concentration of a cyclic AMP inducer, insulin, an insulin analog, a peroxisome proliferator-activated receptor gamma agonist, or a retinoid X receptor agonist sufficient to stimulate differentiation of the preadipocytes,” can be found on page 4, lines 17-20 and page 6, second paragraph.

Rejections Under 35 USC § 112, Second Paragraph

The Examiner rejects claims 6-15 under 35 USC § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. The Examiner states that in claim 6 that differentiating the isolated preadipocytes into an “enriched population of cells which exhibit characteristics of an adipocyte” renders the claim indefinite. Newly amended claim 6 now recites “differentiating them into an enriched population of at least 90% adipocytes” as suggested by the Examiner.

Rejections Under 35 USC § 102(b)

Claims 6-8, 11 and 13-15 stand rejected under 35 USC § 102(b) as anticipated by

Zilberfarb et al (J. Cell Science 110: 801-807, 1997). The Examiner suggests that this reference discloses a method by which preadipocytes are differentiated into adipocytes in the presence of medium which contains insulin and pioglitazone where the adipocytes secrete leptin. The Examiner further states that this method is the same as the currently claimed invention. The Examiner further suggests that the currently pending claims are not limited as the arguments suggest. The revised claims, as suggested by the Examiner, bring the scope of the claims into proportion with the scope of the arguments given in this case.

Applicants point out that, as the Examiner correctly noted, the cells used in the Zilberfarb reference were modified by the introduction of the SV40 large and small T antigens (column 1, page 802, first paragraph). This causes the cells to become immortalized. Thus, Zilberfarb discloses the use of immortalized cells which have been passaged for several months (column 1, page 283, first paragraph, Results). In contrast, the cells isolated using the methods described within the Applicant's disclosure, are isolated from human tissue, cultured and differentiated with minimal passaging and are not immortalized. Newly amended claim 6 includes this particular feature.

One skilled in the art also would not assume that the method disclosed in Zilberfarb yields greater than 90% differentiated cells as suggested by the Examiner, since the method disclosed in Zilberfarb involves the use of immortalized cells and does not allow for the plating of cells at a density of at least 25,000 cells/cm². The reference, in contrast, suggests plating cells at 10,000 cells/cm² (page 802).

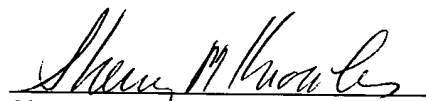
As the Examiner is aware, a reference must teach every element of a claim to anticipate the claim. Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631 (Fed. Cir. 1987)

cert. denied, 484 U.S. 827 (1987). Because the Zilberfarb reference does not teach a method that isolating human preadipocytes and then differentiating them into an enriched population of at least 90% adipocytes, wherein the preadipocytes are not immortalized cells, and the preadipocytes are plated at a density of at least 25,000 cells/cm² ; and identifying a protein, polypeptide or peptide secreted by the enriched population, this reference does not anticipate the currently pending claims. Thus, the additional limitations in revised claim 6 overcome the Examiner's rejection under 35 USC §102(b) and the rejection should be withdrawn.

CONCLUSION

Applicants believe that the claims are now in condition for allowance, and solicit an early notification of same. The Examiner is invited to contact the undersigned at the below listed number to discuss this case, if such discussion would expedite the prosecution of this case.

Respectfully submitted,


Sherry M. Knowles
(Reg. No. 33,052)

King & Spalding
191 Peachtree St.
Atlanta, GA 30303
404-572-3541
404-572-5145 (fax)